

## CLAIMS

I claim:

1. A buffer system comprising:

a buffer that is configured to be accessed via a first pointer and a second pointer, and  
a buffer manager that is configured to limit the second pointer, based on the first pointer,  
wherein

the first pointer is configured provide a sequential block-level access to the buffer, and an  
independent within-block access to the buffer, and

the buffer manager is configured to limit the second pointer to a limit value that  
corresponds to the sequential block-level access of the first pointer.

2. The buffer system of claim 1, wherein

the buffer manager is further configured to reset the limit value to correspond to the first  
pointer, when the independent within-block access to the buffer corresponds to the sequential  
block-level access to the buffer.

3. The buffer system of claim 1, wherein

the first pointer includes a block address and an offset address, and  
the buffer manager is configured to:

set the limit value to correspond to the block address when the independent  
within-block access to the buffer does not correspond to the sequential block-level  
access, and

set the limit value to correspond to a combination of the block address and the  
offset address when the independent within-block access to the buffer corresponds to the  
sequential block-level access.

4. The buffer system of claim 1, wherein

the first pointer and the second pointer correspond to:

a write-pointer for writing data to the buffer, and  
a read-pointer for reading data from the buffer.

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5. The buffer system of claim 1, wherein

the first pointer includes a block address and an offset address,

the block address corresponding to the sequential block-level access, and

the offset address corresponding to the independent within-block access; and

the buffer manager is further configured to minimize changes to the offset access  
between sequential block-level accesses.

6. The buffer system of claim 1, wherein

the buffer manager is further configured to advance the limit value prior to a completion  
of a block-level access of the buffer via the first pointer.

7. The buffer system of claim 6, wherein

the buffer manager is further configured to communicate the limit value via a gray-code  
sequence corresponding to the advance of the limit value.

8. The buffer system of claim 1, wherein

the buffer manager is further configured to communicate the limit value via a gray-code  
sequence.

9. A buffer management system for controlling access to a buffer, comprising  
a buffer manager that is configured to assert a wrap signal when a first access to the  
buffer is non-sequential, and is further configured to limit a second access to the buffer in  
dependence upon the wrap signal.

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10. The buffer management system of claim 9, wherein

the first access to the buffer includes an access that is based on a block address and an  
offset address, and

the second access to the buffer is limited to the block address when the wrap signal is  
asserted, and is limited to a combination of the block address and the offset address when the  
wrap signal is deasserted.

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11. The buffer management system of claim 10, wherein

a change of limit of the second access is communicated via a gray-code sequence.

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12. The buffer management system of claim 10, wherein

the buffer manager is further configured to assert an idle signal when the first access to  
the buffer terminates, and

the second access to the buffer is further limited to the block address when the idle signal  
is asserted.

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13. The buffer management system of claim 9, wherein

the first access and the second access correspond to:

a write-access to the buffer, and

a read-access to the buffer.

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